

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

REMARKS

This paper is responsive to the non-final Office Action mailed January 25, 2005. Claims 17, 31, 35, and 36 are cancelled herein. Applicant reserves the right to pursue the subject matter of these claims in a subsequently filed continuation application. Claims 4-16 remain pending upon entry of this amendment.

I. General Considerations

Groove glazed window sashes are common in fenestration and generally comprise a sheet of glass or a multi-sheet integrated glass unit mounted within a sash frame formed by rails and stiles (broadly "lineals"). In groove-glazed window construction, the glass unit is received in a corresponding groove in each lineal and is adhered to the lineal by sealant applied to the groove prior to and/or subsequent to insertion of the glass unit into the groove. One common problem with existing groove-glazed window construction methods is that sealant applied in the grooves before insertion of the glass can be pushed aside by the edge of the glass unit as the edge of the glass unit moves into the groove of the lineal. It has therefore been common traditionally to apply sealant to the space between the groove wall and the glass after assembly using a caulking gun. Accordingly, this extra step of the groove-glazed window assembly process is expensive, time consuming, and may result in an undesirable appearance of the assembled window, uneven application of sealant, or the like.

The present invention is directed to a method of assembling a groove glazed window component without the need for applying sealant *after* the glass unit is placed in the grooves. The method generally includes application of a sealant, which can be a strip of sealing tape, to both of the facing walls of the groove prior to assembly. The sealant is provided with an dual state adhesive that has a first substantially non-adhesive state and a second substantially adhesive state. A temporary adhesion blocker is applied to the dual state adhesive just prior to assembly to place the dual state adhesive in its first non-adhesive state. The lineals are then slid onto the edges of the glass, which move into their respective grooves and, in doing so, slide across the surfaces of the dual state adhesive. The temporary adhesion blocker is then permitted to

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

dissipate to place the dual state adhesive in its second substantially adhesive state and thereby to bond and seal the glass unit within the groove. The action of the temporary adhesion blocker used in the present invention prevents the sealant or strip of sealing tape from being pushed aside or deformed by friction when the edge portion of the glass unit moves into the groove and allows the sealant to bond the glass unit adhesively within the groove upon dissipation of the temporary adhesion blocker. No further or additional calking or sealant application is required, and the resulting seal is one of high integrity that is consistently acceptable in appearance.

II. Rejections Under 35 U.S.C. § 103

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,260,251 (Guhl) in view of U.S. Pat. Nos. 6,615,890 (Sigafos), 5,840,407 (Futhey et al.), and 6,811,848 (Pitzen et al.). Claim 4 also stands rejected under 35 U.S.C. § 103(a) based on the references noted previously and further in view of the prior art cited in U.S. Pat. No. 6,055,783 (Guhl et al.). Dependent claims 5-16 stand rejected under U.S.C. § 103(a) based on various combinations of the references noted above and further in view of U.S. Pat. No. 6,886,297 (Crandell).

Claims 4-16

Claim 4 is directed to a method of assembling a groove glazed window component wherein at least one grooved lineal is applied to an edge portion of a glass unit, a groove of the grooved lineal having spaced apart walls, said method comprising the steps of:

(a) applying a sealant to at least one of the spaced apart walls of the groove, the sealant having an exposed surface bearing a dual state adhesive;

(b) applying a temporary adhesion blocker to the dual state adhesive to place the dual state adhesive in a first substantially non-adhesive state;

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

(c) urging the edge portion of the glass unit into the groove while the dual state adhesive is in its first substantially non-adhesive state, the edge portion of the glass unit contacting and sliding across the exposed surface of the dual state adhesive; and

(d) allowing the temporary adhesion blocker to dissipate thereby placing the dual state adhesive in a second substantially adhesive state to bond and seal the glass unit within the groove.

Claim 4 is novel and nonobvious over the references of record, including in particular Guhl, Sigafos, Futhy, Pitzen, and Guhl et al. None of the references, whether considered alone or in combination, show or suggest a method of assembling a groove glazed window component comprising the steps of Claim 4. Specifically there is no teaching of applying a sealant bearing a dual state adhesive to the grooves of a lineal, applying a temporary adhesion blocker to the dual state adhesive to place the adhesive in a first substantially non-adhesive state, sliding the edge portion of the glass unit across the dual state adhesive while in the first substantially non-adhesive state, and allowing the temporary adhesion blocker to dissipate and place the dual state adhesive in a second substantially adhesive state to bond and seal the glass unit within the groove.

Guhl discloses a window 18 including a frame 20, a sash 22, a glazing panel 24 and teaches that the glazing panel may be installed in the sash by a variety of methods known in the art, including bed glaze construction or groove glazed construction. In bed glaze construction shown in Fig. 4, the glazing panel 24 is installed by placing it on a ledge 42 that is part of the sash member 36 of the lineal members 30 and then a trim strip is applied to the edge of the glazing panel opposite the ledge. Guhl discloses that groove glaze construction may alternatively be used to assemble the window outline 41 around the glazing panel. At col. 5, lines 34-40, Guhl recognizes one of the problems common with prior art groove glaze techniques in that adhesive may be pushed aside by the edge of the glazing panel as the individual lengths 38 are assembled to form the window shape 41, resulting in a less desirable seal between the glazing panel and the

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

sash. As a result of this identified shortcoming of groove glazed construction, Guhl teaches that bed glazed construction is the preferred method for installing the glazing panel 24.

As acknowledged by the Examiner, Guhl teaches one of the problems with existing groove glaze construction methods. However, Guhl completely lacks a showing or suggestion of any modification to the method of groove glazed construction to overcome this problem. Rather, Guhl simply teaches that alternative methods of assembly, such as bed glaze construction, are preferred to avoid the problems with groove glazed construction. Nothing in the teachings of Sigafos, Futhey or Pitzen show or suggest modifying the groove glazed construction method taught by Guhl to overcome the recognized problem by using a dual state adhesive and a temporary adhesion blocker in a method of assembling groove glazed windows.

Sigafos discloses a tape applicator that is only capable of applying glazing tape on an open ledge of a window sash, as is done in bed glazing. There is no version of the machine for applying glazing tape to facing walls of a grooved sash. Sigafos therefore does not show or suggest the use of glazing tape for any glazing application other than bed glazing, and therefore does not suggest its use in conventional groove glazing methods as shown in Guhl.

Futhey discloses improvements in microstructural transparent optical films applied to glass or mirror for decorative purposes such as imitating a beveled edge of glass. An optical film 30 is applied to a surface of glass 50 by transparent adhesive 40 to give the appearance of cut beveled glass. The optical film 30 has a first side 32 against which the adhesive 40 is applied and a second side 34 with a plurality of prism grooves that deflect light in a manner that simulates the optical qualities of cut beveled glass. The adhesive 40 may be applied to the optical film 30 and include a strippable liner to form an optical tape that is stripped away prior to attachment of the adhesive to the glass. Futhey teaches that a mixture of water, polypropyl alcohol, and liquid detergent may be applied to the glass surface to allow the optical tape to be selectively moved around for precise positioning of the optical film 30 to create the light deflection needed to simulate the appearance of cut glass.

Pitzen relates to application of designs and other graphics to glass panes to create the appearance that the glass has been etched, sandblasted, or cut into the glass. Pitzen teaches that graphic portions 14, 15 of laminates 12, 13 are assembled on a layer of glass 37 by a layer of adhesive 18, 22 that adheres the graphic portion to the glass. A wetting liquid such as a detergent

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

and water solution can lubricate the adhesive layers 18, 22,. The laminates 12, 13 can be moved along the wet glass 37 to assembly the graphic portions 14, 15 precisely until the wetting liquid evaporates and the graphic portions are adhered to the glass.

The prior art does not suggest the desirability of making the necessary modifications to the method of window construction of Guhl to obtain the applicant's invention. The Federal Circuit has repeatedly warned that to imbue a skilled artisan with knowledge of an invention, when no reference or record conveys or suggest that knowledge, is to fall victim to the "insidious effects of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W.L. Gore & Assoc. v. Garlock, Inc., 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983). The mere fact that the prior art could be modified does not make the modification obvious unless the prior art suggest the desirability of the modification. In re Mills, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990). Furthermore, the prior art must provide one of ordinary skill the motivation to make the proposed modifications. In re Lahu, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984).

The combination of the teachings of Sigafos, Futhey, and Pitzen with the teachings of Guhl does not result in a teaching of the use of dual state of adhesive and a temporary adhesion blocker in a method of assembling a groove glazed window component as claimed in claim 4. While Guhl identifies the general problem with the adhesives in groove glazed window construction sliding due to contact with the glass, Guhl does not teach or suggest ways to overcome the problem and rather, teaches that alternative methods of assembly should be used to avoid the problems with groove glazed construction. Sigafos is directed to glazing tape for use in bed glazing applications. Both Futhey and Pitzen are directed to the assembly and attachment of a decorative member to the exposed surface of a glass pane to create decorative glass. While the assembly methods for decorative glass of Futhey and Pitzen requires a high degree of precision, such assembly methods are not adaptable to a method of assembling a groove glazed window component that must withstand the wear and tear of use in a window or door installed in a building. Window decorations such as taught in Futhey and Pitzen are typically made of a thin plastic film, arranged to form decorative designs such as snowflakes or Christmas trees, which is lightweight and capable of being held onto the window by electrostatic cling alone. A groove glazed window component requires a large amount of adhesion to attach and seal the glass within the groove of the lineal so that the entire glass unit is tightly sealed and immobilized in the

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

assembled component for use in a window or door of a building. The decorative members attached to the surfaces of the glass panes taught in Futhey and Pitzen serve only aesthetic purposes and do not support or seal the pane of glass in an assembled window component. As such, Futhey and Pitzen do not contain a suggestion or motivation to modify the groove glazed construction technique shown in Guhl. Further, Furthey and Pitzen lack any teaching that would suggest the adhesives disclosed therein would be suitable for use as sealant in the assembly of window component in a manner that seals the glass unit in a grooved lineal of the window component.

Moreover, a reference is not available under 35 U.S.C. § 103 and thus is known as "non analogous art," if it is not within the inventor's field of endeavor or not directly pertinent to the particular problem solved by the inventor. King Instrument Corp. v. Otari Corp., 226 U.S.P.Q. 402, 405 (Fed. Cir. 1985). Futhey and Pitzen are not within the field of endeavor of window assembly techniques, particularly groove glazed window component assembly. Furthermore, the problem solved by applicants' invention is the pushing aside of adhesive within the grooves of a lineal as the edge of a glass pane moves into the groove. Futhey and Pitzen are not pertinent to this problem at all. Their concern is not with the pushing aside or deformation of any adhesive, but rather with the ability to position a decorative element on a piece of glass. Accordingly, these two references are non analogous art and thus not properly applicable when considering obviousness of the presently claimed invention. One of ordinary skill in the art confronted with the problem adhesive displacement and deformation in groove glazed window construction as recognized in Guhl would not look to decorative appliques, which are really nothing more than decals, as a source of inspiration in to craft a solution.

Even if it is assumed, merely for the sake of argument, that the combination of references relied on by the Examiner teaches all the elements of the claimed invention (they do not), the references lack a teaching of the requisite suggestion or motivation for making the combination relied on by the Examiner. Most if not all inventions arise from the combination of old elements. *In re Rouffet*, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant. *In re Kotzab*, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000). *Emphasis added*. Further, a rejection cannot be predicated on the mere identification of individual components of claimed limitations. *Id.* at 1371. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Id.*

At page 5 of the Office action, the Examiner states that the apparent motivation for making the combination of references is that "one skilled in the art would have appreciated that the problem acknowledged by Guhl is due to the fact that the tackiness of the sealant creates friction between the sealant and glass unit, which causes the sealant to be pushed aside by the glass unit." However, this assertion of motivation, relied upon as fact and at the heart of the rejections in the Office Action, is not found in any of the art of record to support the proposed combination of references. Applicant fails to see how one skilled in the art, *at the time the invention was made*, would be motivated to look to the teachings of Futhey and Pitzen, related to the decorative appliques, in order to solve the problem related to groove glazed window unit construction acknowledge by Guhl. It appears that only through the improper application of hindsight in view of the applicant's own disclosure does the stated motivation arise. Reconsideration is therefore requested.

Accordingly, claim 4 is nonobvious and patentable over the references of record. Claims 5-16, depending directly or indirectly from claim 4, are nonobvious and patentable over Guhl, Sigofoes, Furthey, Pitzen, and the other references of record for at least the same reasons as claim 4.

Furthermore, Guhl '783 and Crandell, do not add to the teachings Guhl '251, Sigafoes, Futhey, and Pitzen so as to render any of claims 4-16 obvious in view of any combination of the references nor does Guhl '783 and Crandell provide any motivation of one of ordinary skill in the art to make any of the modifications proposed by the Examiner. Accordingly claims 4-16 are submitted as patentable for these additional reasons.

Response to Office Action of January 25, 2006
U.S. Patent Application Serial No.: 10/686,791

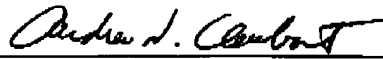
III. Conclusion

In view of the above remarks, the rejections of the claims set forth in the Office Action are believed to have been addressed and overcome. All pending claims are thus in condition for allowance and an early notice of allowance is earnestly solicited.

If issues may be resolved through Examiner's Amendment, or clarified in any manner, please call the undersigned attorney at (404) 879-2453.

Respectfully submitted,

Date: 5/25/06


Andrew N. Claerbout
Reg. No. 50,202

Womble Carlyle Sandridge & Rice, PLLC
P.O. Box 7037
Atlanta, GA 30357-0037
(404) 872-7000 (Telephone)
(404) 888-7490 (Facsimile)

Docket No.: A202 1490